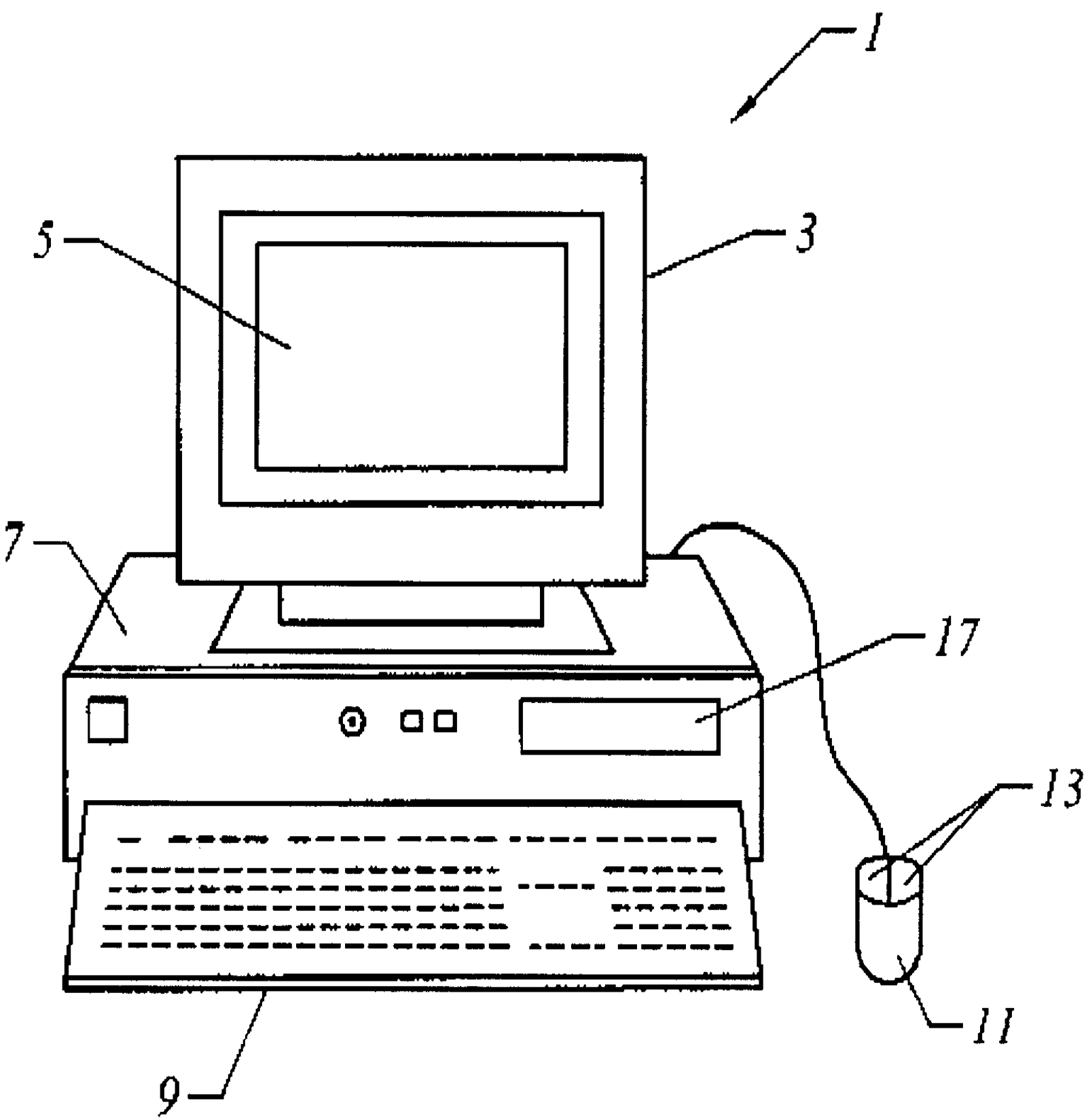

FIG. 1

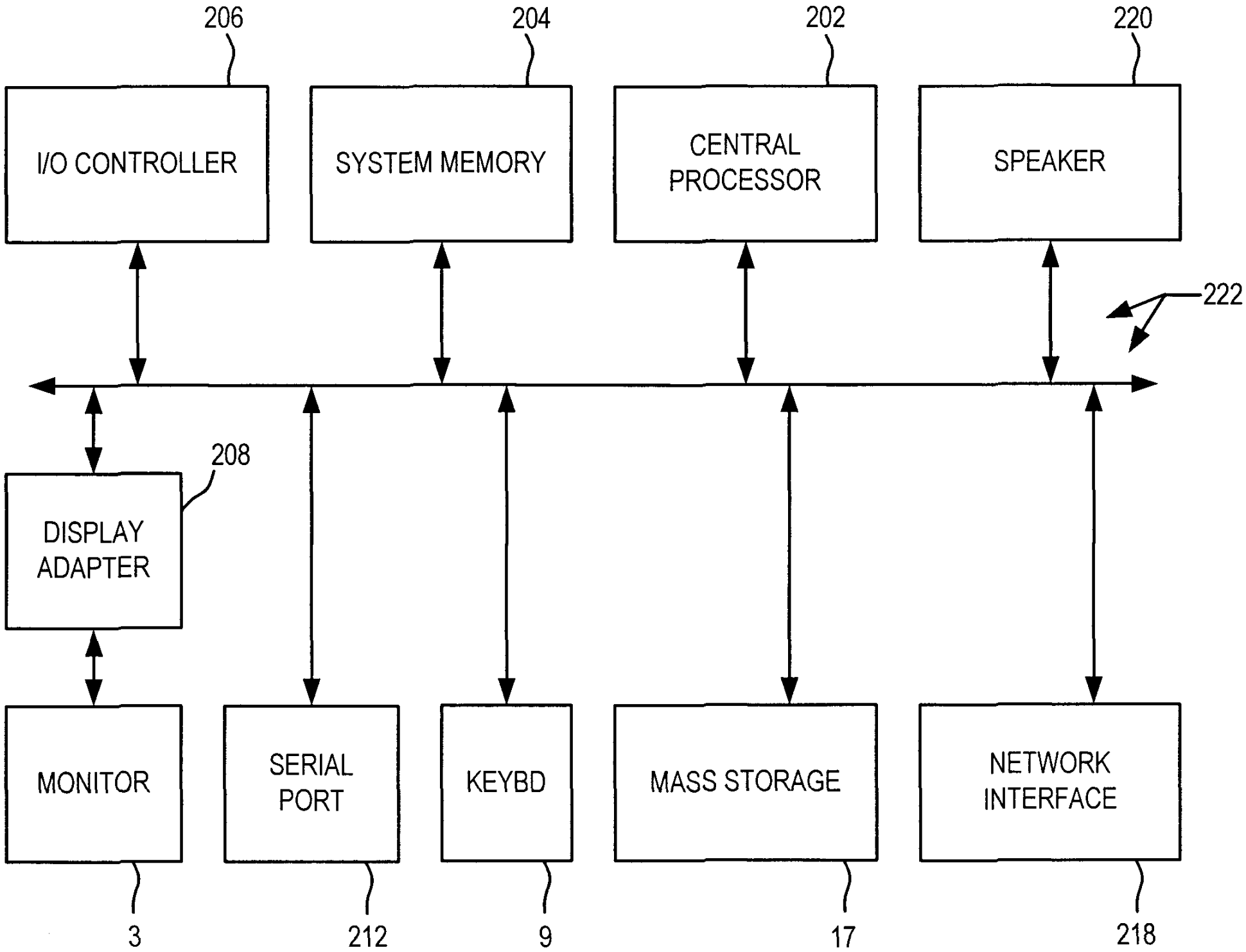
206
204
202
220
1
I/O CONTROLLER
SYSTEM MEMORY
CENTRAL PROCESSOR
SPEAKER
222
208
DISPLAY ADAPTER
MONITOR
SERIAL PORT
KEYBD
MASS STORAGE
NETWORK INTERFACE
3
212
9
17
218

FIG. 2

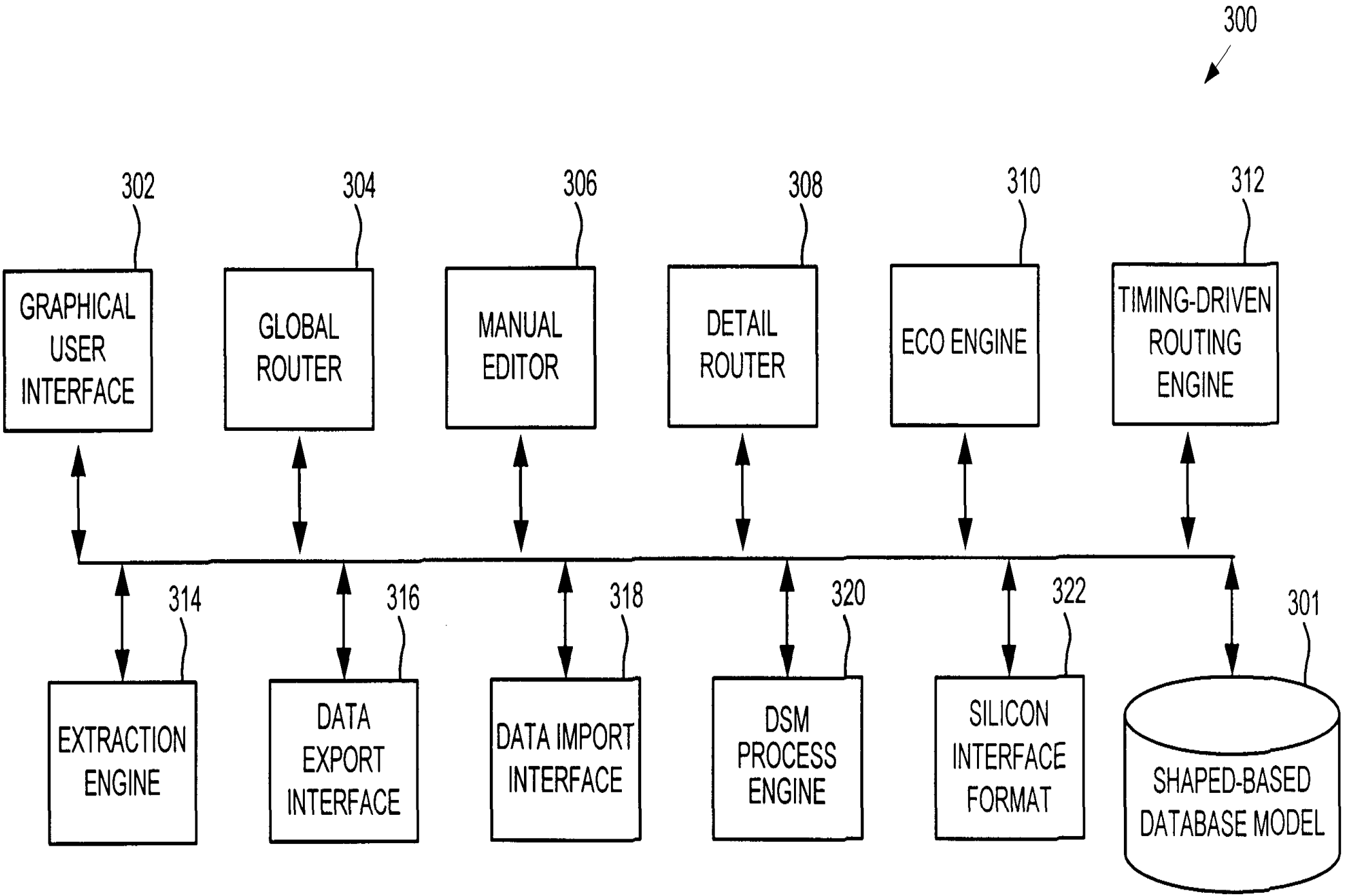
300
302
GRAPHICAL USER INTERFACE
304
GLOBAL ROUTER
306
MANUAL EDITOR
308
DETAIL ROUTER
310
ECO ENGINE
312
TIMING-DRIVEN ROUTING ENGINE
314
EXTRACTION ENGINE
316
DATA EXPORT INTERFACE
318
DATA IMPORT INTERFACE
320
DSM PROCESS ENGINE
322
SILICON INTERFACE FORMAT
301
SHAPED-BASED DATABASE MODEL

FIG. 3

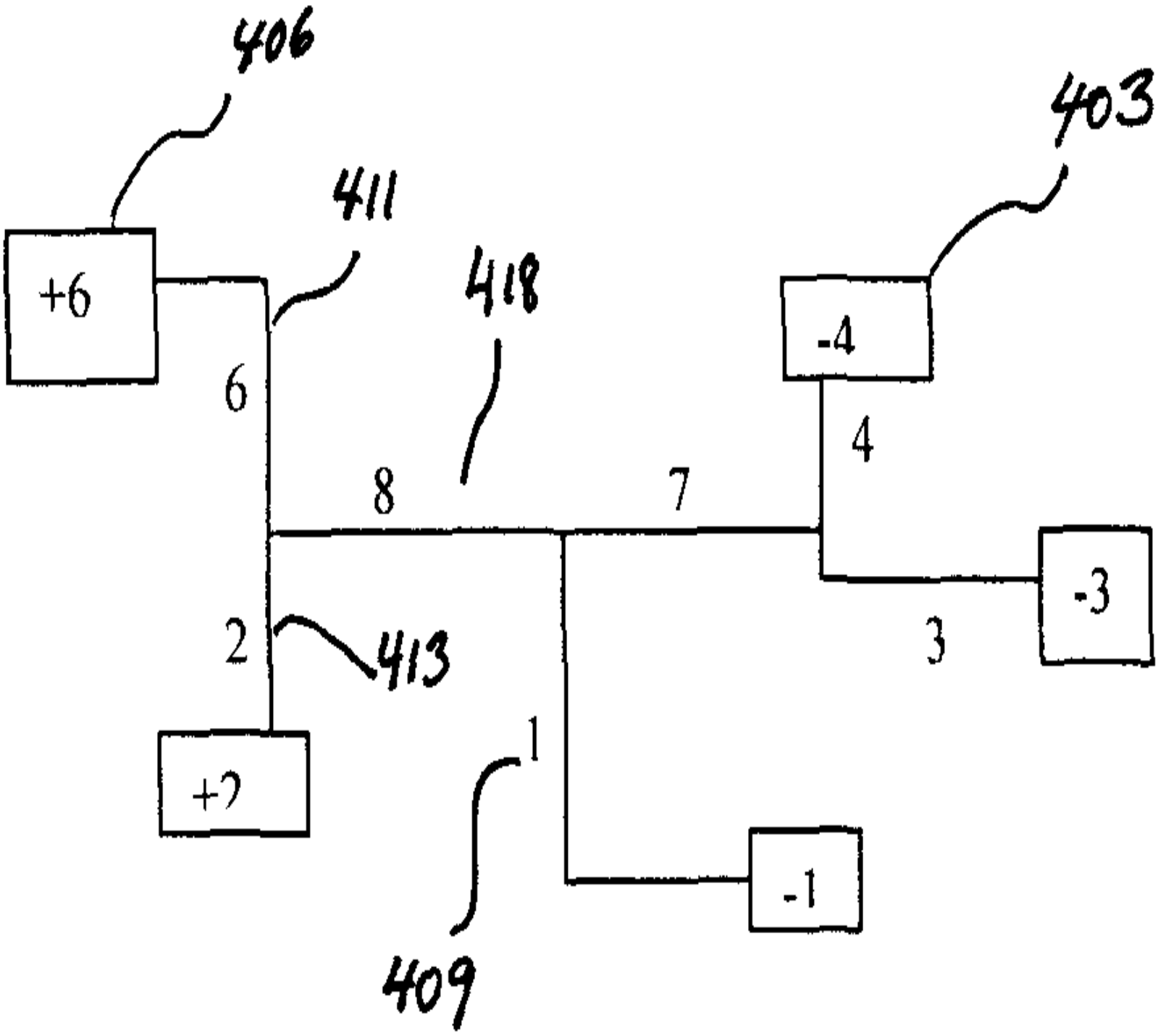

FIG. 4

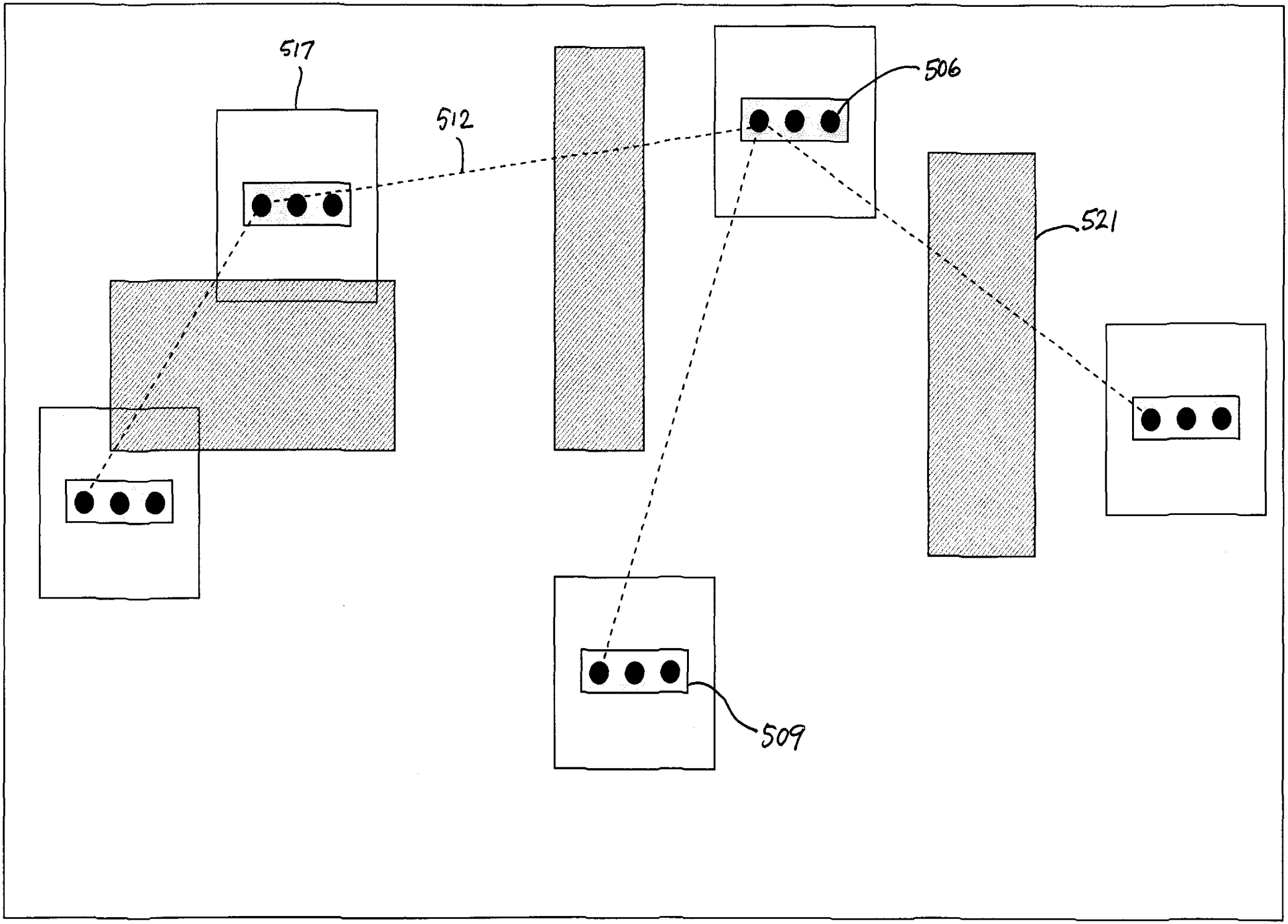

Figure 5 Unrouted net showing points (black) on pins

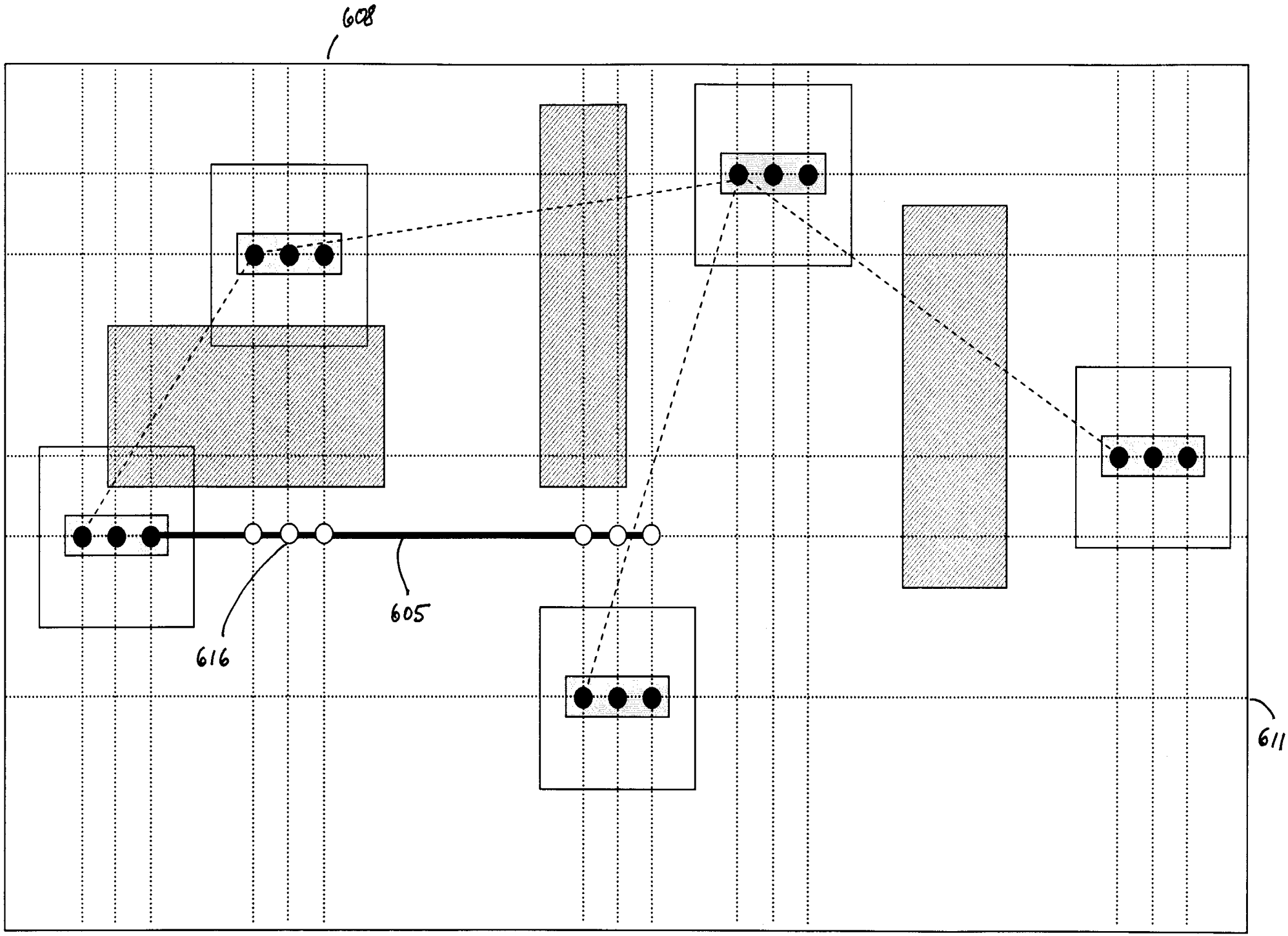

Figure 6 Net with prerouting (tracks already existing—shown in black) and a generated Hanan grid showing projected points onto the prerouting (clear circles)

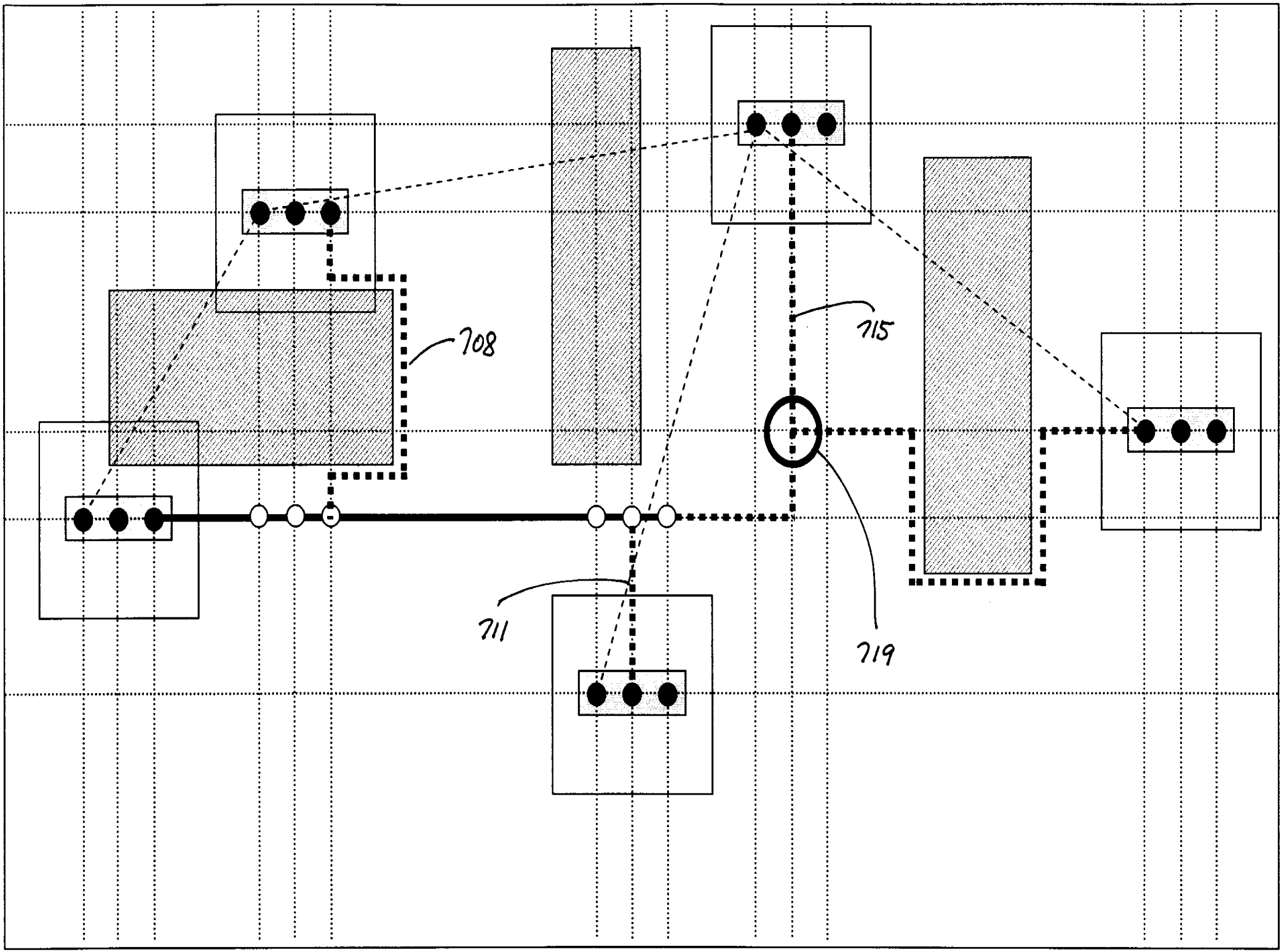

Figure 7 Proposed paths (dotted) from Steiner tree creation and positionally generated virtual pin (circled)